



# Data & Analysis Center for Software

## DACS Overview

<http://iac.dtic.mil/dacs>

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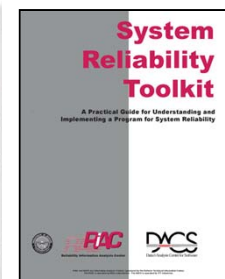
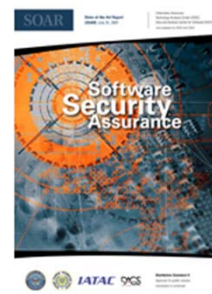
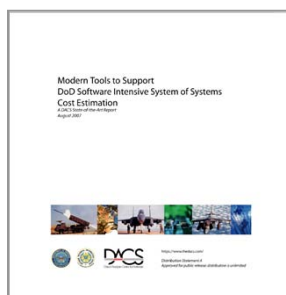
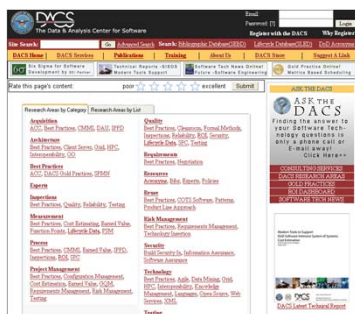
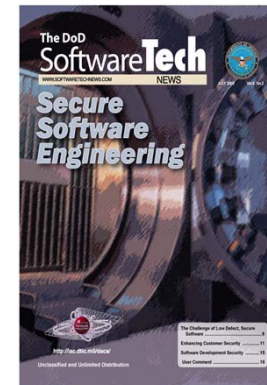
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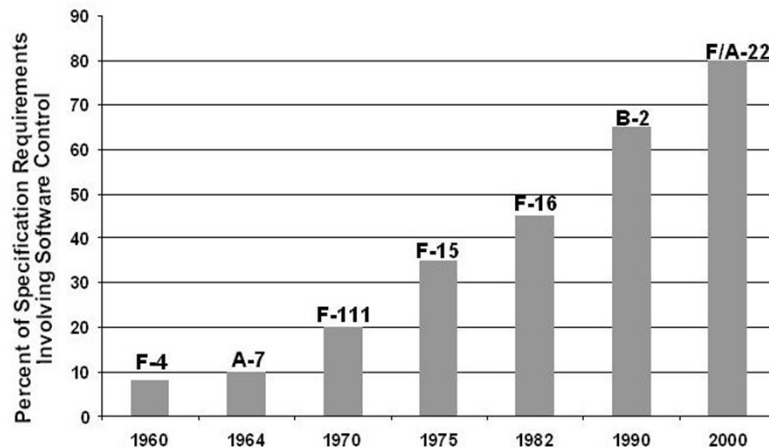
# DACS Overview

- ▶ The DACS technical area of focus is Software Technology and Software Engineering, in its broadest sense.
- ▶ Central distribution hub for the latest software technology information sources.
- ▶ Wide variety of Technical Services to support the R&D, development, testing, validation, and transitioning of Software Engineering technology.





# DACS STINFO Addresses Current Software Challenges



Ref: Defense Systems Management College

## System Characteristics

- 10-100 MLOC
- 30-300 Ext. I/F
- Depth of Supplier Tier: 6-12
- 20-200 Coordination Groups

## Future Combat Systems:

- 12,000 SoS Requirements - > 90,000
- 50 Critical Technologies
- 52 Complimentary Programs
- 40 Million Lines of Code

## ► Software Context in 2008

- Model Based Development Paradigm
- Net Centric Integration of Existing Systems
- COTS Integration
- Systems of Systems
- Ultra Large Systems





# DACS STINFO Addresses DoD Software Needs

- **Technology**
  - Lifecycle Development
  - State of the Art
  - Trends
- **Best Practices in Software Engineering**
- **Emerging Practices**
- **Acquisition Issues**
- **Software Project Management**

## Customers

- JIEDDO
- AFRL
- DARPA
- ODUSD(A&T)
- AAMDC
- DDR&E
- NSWC
- USACE
- ONR
- MDA

## Classes of Users

- Developers
- Researchers
- Acquirers
- Managers

# Rich Resources for Users from the DACS

## Hundreds of Resources

Research Areas by Category | Research Areas by List

**Acquisition**  
A.C.C. Best Practices, CMML, DAU, IPR

**Quality**  
Best Practices, Cleanroom, Formal Methods

Welcome to the DACS Gold Practices(GP) web site

This site exists to provide information about prevalent software acquisition and development 'best' practices that may have a positive impact on program risks and ROI.

The menu options at the top provide access to the general features of the site. [Click here](#) for more detailed information about the menu functionality.

Use the links in the table below for direct access to data and information about specific practices (or practice areas). [Click here](#) for further details about the content and functionality of the table. To display definitions of the practice hover your mouse over the practice name.

Practice Name	DACS Focus Area	Data	Survey Results	Discussion Forum	Printable Version
<a href="#">Acquisition Process Improvement</a>	Process	☑	☑		☑
<a href="#">Architecture-First Approach</a>	Risk		☑		☑
<a href="#">Assess Reuse Risks and Costs</a>	Quality		☑		☑
<a href="#">Binary Quality Gates at the Bin-File/Build Level</a>	Requirements		☑		☑
<a href="#">Commercial Specifications and Standards/Open Systems</a>	Performance	☑	☑		☑
<a href="#">Demonstration-Based Reviews</a>	Management	☑	☑		☑
<a href="#">Develop and Maintain a Life-cycle Business Case</a>	Performance		☑		☑
<a href="#">Enforce Interoperability</a>	Quality		☑		☑
<a href="#">Formal Inspections</a>	Risk		☑		☑
<a href="#">Formal Risk Management</a>	Process		☑		☑
<a href="#">Goal-Question-Metric Approach</a>	Performance	☑	☑		☑
<a href="#">Independent Expert Reviews</a>	Process		☑		☑
<a href="#">Integrated Product and Process Development</a>	Requirements		☑		☑
<a href="#">Manage Requirements</a>	Management		☑		☑
<a href="#">Metrics-based Scheduling</a>	Quality	☑	☑		☑
<a href="#">Model-Based Testing</a>	Management		☑		☑
<a href="#">Plan for Technobusiness Integration</a>	Requirements	☑	☑		☑
<a href="#">Requirements Trade-Off/Negotiation</a>	Requirements	☑	☑		☑

## 4 Hours Free

**ASK THE DACS**

Finding the answer to your Software Technology questions is only a phone call or E-mail away!

[Click Here>>](#)

The Data & Analytics Center for Software

Life Search | Metrics Based Scheduling | The Latest Gold Practice Developed by the DACS

Research Areas by Category | Research Areas by List

Acquisition | Architecture-First Approach | Assess Reuse Risks and Costs | Binary Quality Gates at the Bin-File/Build Level | Commercial Specifications and Standards/Open Systems | Demonstration-Based Reviews | Develop and Maintain a Life-cycle Business Case | Enforce Interoperability | Formal Inspections | Formal Risk Management | Goal-Question-Metric Approach | Independent Expert Reviews | Integrated Product and Process Development | Manage Requirements | Metrics-based Scheduling | Model-Based Testing | Plan for Technobusiness Integration | Requirements Trade-Off/Negotiation

Quality | Best Practices | Cleanroom | Formal Methods

Performance | Process | Risk | Requirements | Management | Quality

Survey Results | Discussion Forum | Printable Version

Agile Development | Architecture-First Approach | Assess Reuse Risks and Costs | Binary Quality Gates at the Bin-File/Build Level | Commercial Specifications and Standards/Open Systems | Demonstration-Based Reviews | Develop and Maintain a Life-cycle Business Case | Enforce Interoperability | Formal Inspections | Formal Risk Management | Goal-Question-Metric Approach | Independent Expert Reviews | Integrated Product and Process Development | Manage Requirements | Metrics-based Scheduling | Model-Based Testing | Plan for Technobusiness Integration | Requirements Trade-Off/Negotiation

Quality | Best Practices | Cleanroom | Formal Methods

Performance | Process | Risk | Requirements | Management | Quality

Survey Results | Discussion Forum | Printable Version

## Download DACS Tech Journal

The DoD SoftwareTech NEWS

June 2007 Vol. 10, Number 2

Open Source - The future is open

Articles in this issue:

- TechViews - COTR Warns: Open Technologies and the Business of War
- Open Source Software (OSS) in U.S. Government Acquisitions
- Keeping Software Secure in a Networked World
- Open Source Software and the Long Road to Sustainability within U.S. DoD IT Systems

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# STINFO Resources of Interest to Software Acquisition Community

- Reports
  - System of Systems Cost Estimation
  - Software Reliability
  - ROI of Process Improvement
  - Gold Practices
    - Formal Risk Management
    - Standards/Open Systems
    - Manage Requirements
    - Metrics Based Scheduling
    - Track Earned Value
- Training
  - Software Affordability
  - On-Line Training
- Newsletters
  - IP and Software
  - Service Oriented Architectures
  - Open Source
  - Performance Results from CMMI
  - Measurement
  - many more...





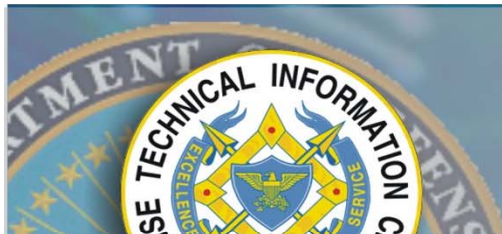
# DACS Expertise

## Focus Areas

- Software Testing
- Software Quality
- Software Reliability
- Agile Development
- Software Architecture
- Process Improvement
- Measurement
- Cost Estimation
- Information Technology
- Software/IT Training
- Net Centric Operations
- Software Economic Analysis
- Information Fusion
- Software Producibility
- Software Intensive Systems Engineering
- Software Assurance
- Advanced Computing Architectures
- System Modeling and Simulation

Established Relationships with World Class Experts Provides  
State of the Art and Timely Scientific and Technical Information



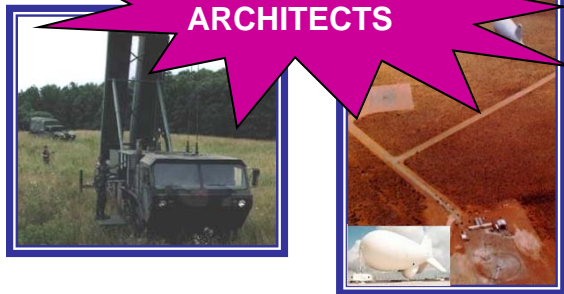


# ADA School, FCS, and Warfighter Support

## Combat Architectures

- Supported Multiple Major Army Studies over 25 Years
- Supported Development of Requirements / JCIDS Documentation for Major Army Combat and C2 Systems
- Supported Organizational Design
- Support Future Army BMC4I Architecture / Concepts Design
- Performed Integrated Systems Analysis
- Performed Regional Coverage Analysis

**FUTURE FORCE ARCHITECTS**



## Training Development

- Support Development of Training and Doctrinal Products:
  - Field Manuals
  - Graduate Level Training Courses
  - OIF Lessons Learned Database / Tracking
  - Training Plans and Support Packages
  - Scenario Generation for Multi-Echelon Training
- Web page design and implementation

**FUTURE / CURRENT FORCE TRAINING PRODUCTS**



## Operational AMD Unit

- Support to 32d AAMDC and ADA Brigades / Battalions in:
  - Training, Operations, Personnel, Communications (JTIDS), and Logistics
  - Executed AMD Training -30 exercises per year at Drive Up System Training Facility
  - Contingency Operations
    - OIF (Deployed)
    - ONE (Deployed)
    - OEF
  - Provide Information Technology services

**SUPPORTS THE WARFIGHTER**



*Information for the Defense Community*





# For More Information...

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